

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A gear transmission device comprising:

a pair of first and second fixed walls, said first and second fixed walls opposing each other with respect to an axial direction of a first gear shaft;

a first gear positioned on said first gear shaft between said first and second fixed walls, said first gear being axially moveable with respect to said first and second fixed walls; and

regulating means positioned between the first gear and the second fixed wall, the regulating means adapted to regulate an increase of a bending amount of an elastic member by a predetermined value or more,

wherein the regulating means includes:

a plane washer having one face positioned against a planar surface on an end face of the second fixed wall;

a cylindrical portion being formed on a first opposed end face of the first gear;

the elastic member positioned between the cylindrical portion and the plane washer;

a predetermined space formed between the cylindrical portion and the plane washer in contact with the second fixed wall,

wherein said cylindrical portion is capable of operative contact with said planar end surface of said second end wall through direct contact with the plane washer, and is capable of regulating a bending amount of said elastic member to a predetermined amount,

wherein the elastic member is a deformable closed ring, and

wherein an outer perimeter of the elastic member has a circular shape when viewed in plan view, an outer diameter substantially equal to an inner diameter of the said cylindrical portion, and an inner inner-most perimeter of the elastic member has a non-circular shape when viewed in plan view,

wherein the first fixed wall is a crankshaft side wall and the second fixed wall is another side wall,

wherein the cylinder portion formed on the first opposed end face of the first gear consists of a single cylinder portion.

2. (Previously Presented) The gear transmission device according to claim 1, further comprising a second shaft having a relatively large diameter gear on a first end and a relatively small diameter gear on a second end, with a space separating the relatively large diameter gear and the relatively small diameter gear, wherein said small diameter gear operatively engages said first gear positioned on said first gear shaft positioned between said first and second fixed walls.

3. (Previously Presented) The gear transmission device according to claim 1, further comprising a large diameter ring gear operatively engaged with said first gear, wherein said first gear is an idle gear and said first gear shaft is an idle gear shaft.

4-7. (Cancelled)

8. (Currently Amended) The gear transmission device according to claim 1, wherein said elastic member is a wave washer, and

wherein at least a portion of the ~~inner~~ inner-most perimeter of the elastic member fits directly around an outer ~~circumference~~ cylindrical surface of said first gear shaft.

9. (Previously Presented) The gear transmission device according to claim 2, wherein said elastic member is a wave washer.

10. (Previously Presented) The gear transmission device according to claim 3, wherein said elastic member is a wave washer.

11-15. (Cancelled)

16. (Currently Amended) The gear transmission device according to claim 1, wherein the plane washer is disposed in a position opposite to said single cylindrical portion.

17. (Currently Amended) A gear transmission device comprising:

a pair of first and second fixed walls, said first and second fixed walls opposing each other with respect to an axial direction of a first gear shaft;

a first gear positioned on said first gear shaft between said first and second fixed walls, said first gear being axially moveable with respect to said first and second fixed walls;

regulating means comprising an elastic member; and

a ~~single~~-cylindrical portion being formed on a first opposed end face of the first gear, the cylindrical portion facing in a direction toward a planar surface on the end face of the second fixed wall,

the elastic member being positioned between said first gear and said second fixed wall and being adapted to regulate an increase of a bending amount of the elastic member by a predetermined value or more,

wherein an ~~inner~~ inner-most perimeter of the elastic member has a non-circular shape when viewed in plan view, an outer diameter of the elastic member is substantially equal to an inner diameter of the said cylindrical portion.

wherein the first fixed wall is a crankshaft side wall and the second fixed wall is another side wall,

wherein the cylinder portion formed on the first opposed end face of the first gear consists of a single cylinder portion.

18. (Previously Presented) The gear transmission device according to claim 17, further comprising a second shaft having a relatively large diameter gear on a first end and a relatively small diameter gear on a second end, with a space separating the relatively large diameter gear and a relatively small diameter gear, wherein said small diameter gear

operatively engages said first gear positioned on said first gear shaft positioned between said first and second fixed walls.

19. (Previously Presented) The gear transmission device according to claim 17, further comprising a large diameter ring gear operatively engaged with said first gear, wherein said first gear is an idle gear and said first gear shaft is an idle gear shaft.

20. (Currently Amended) The gear transmission device according to claim 17, wherein said elastic member is a deformable closed ring that has ~~an outer diameter~~ substantially equal to ~~an inner diameter of the said single cylindrical portion~~ an inner-most perimeter having at least a portion of which that fits directly around an outer cylindrical surface of said first gear shaft.

21. (Cancelled)

22. (Previously Presented) The gear transmission device according to claim 17, wherein the regulating means includes a plane washer disposed in a position opposite to said single cylindrical portion.

23. (Currently Amended) A gear transmission device comprising:

a pair of first and second fixed walls, said first and second fixed walls opposing each other with respect to an axial direction of a first gear shaft;

a first gear having a cylindrical portion formed on one side thereof, the first gear being positioned on said first gear shaft between said first and second fixed walls and being axially moveable with respect to said first and second fixed walls,

regulating means comprising

an elastic member having first and second surfaces, the elastic member being disposed directly around the first gear shaft with the first side thereof directly facing the fixed gear; and

a plane washer disposed directly around the first gear shaft, the plane washer having a first side with an inner surface portion directly facing a second surface of the elastic member, and an outer surface portion disposed radially outward with respect to the inner surface portion and directly facing an end of the cylinder portion,

wherein the regulating means is adapted to regulate an increase of a bending amount of the elastic member by a predetermined value or more,

wherein the cylinder portion formed on the first opposed end face of the first gear consists of a single cylinder portion.

and when the elastic member is in a compressed state, only the outer surface portion of the plane washer is able to contact the end of the single cylinder portion.

24. (Previously Presented) The gear transmission device according to claim 23, further comprising a second shaft having a relatively large diameter gear on a first end and a relatively small diameter gear on a second end, with a space separating the relatively large diameter gear and a relatively small diameter gear, wherein said relatively small diameter gear operatively engages said first gear positioned on said first gear shaft positioned between said first and second fixed walls.

25. (Currently Amended) The gear transmission device according to claim 1, wherein the a second side of the plane washer is larger than the end face of the second fixed wall, and the end face of the second fixed wall is smaller than the single cylindrical portion formed on the first gear.

26. (Cancelled)

27. (Currently Amended) The gear transmission device according to claim 1, in a case where the single cylindrical portion is not in direct contact with the plane washer and a predetermined space lies therebetween, a portion of the elastic member extends into a predetermined space beyond the single cylindrical portion and presses against the plane washer, and

in a case where the single cylindrical portion is in direct contact with the plane washer, thereby eliminating the predetermined space, the elastic member is compressed and no longer extends beyond the single cylindrical portion.

28. (Currently Amended) The gear transmission device according to claim 1, in a case where the single cylindrical portion is in direct contact with the plane washer, the elastic member is compressed to a thickness equal to an inner axial length of the single cylindrical portion.

29. (New) The gear transmission device according to claim 1,

wherein the inner-most perimeter of the elastic member is formed with a plurality of alternating first concave arc-shaped sections each having a radius R1, and second concave arc-shaped sections each having a radius R2, with $R2 > R1$, and

only the first arc-shaped sections fit directly around an outer cylindrical surface of said first gear shaft, the first shaft having a cylindrical shape.

30. (New) The gear transmission device according to claim 1, wherein the elastic member is formed with a plurality of first flat sections and a plurality of second flat sections, the first and second flat sections are arranged so as to alternate with each other in a circumferential direction of the elastic member, and

regardless of the bending amount of the elastic member, the second flat sections are disposed flush against a flat surface of the second fixed wall.

31. (New) The gear transmission device according to claim 1, wherein the elastic member is formed with a plurality of first flat sections and a plurality of second flat sections, the first and second flat sections are arranged so as to alternate with each other in a circumferential direction of the elastic member, and

regardless of the bending amount of the elastic member, the first flat sections are substantially parallel to the second flat sections.